

68-1-9/21

Stepanenko, M.A., Doctor of Technical Sciences, and Matusyak, N.I., Gogoleva, T.Ya., Engineers. AUTHOR:

Coal Oil Pitch as a Binding Material for Briquetting Coals. TITLE: (Uglemaslyanyy pek - svyazuyushchiy material dlya briketirovaniya ugley)

PERIODICAL: Koks i Khimiya, 1957, No.1, pp. 32 - 35 (USSR)

A product obtained by a thermal treatment of a mixture of coal and high boiling fractions of pitch distillates of anthracene fraction II, as a solvent is called coal oil pitch. In the paper the preparation of coal oil pitch and its further In the paper the preparation of coal oil pitch and its further use as a binder for briquetting coal is described. Coal oil pitches were prepared from coals **r**, nw, k and **n**C and a mixture of anthracene fraction II and heavy pitch distillates (ratio 1:1.2). Properties of coals and solvents are given in Tables 1 and 2, respectively. Preparation of coal oil pitch: coal crushed to 3 mm is mixed with the solvent (% of solvent for 1 and k = 32% and for nC - 24%) and heated for 3 hours at 360 - 380 °C. The yield and properties of coal oil pitch obtained are given in Table 3. Coal T was briquetted under the following conditions: softening temperature of coal oil the following conditions: softening temperature of coal oil pitch - 65 - 75 °C; proportion of the binder 12%; fineness of coal - crushed to 3 mm; temperature of mixing and press-

APPROVED FOR RELEASE: 08/25/2006 of CTA ROPS6-00513R001653120020-1" Card 1/2

68-1-9/21

Coal Oil Pitch as a Binding Material for Briquetting Coals.

pressing pressure 400 kg/cm<sup>2</sup>. The shape of briquettes is shown on the photograph. Changes on storing of the properties of the binders used are shown in Table 4, and changes in the mechanical properties of briquettes on storing, in Table 5.

The quality of briquettes was good; they ignite at 900 °C, initially with a smokey flame and then with a colourless flame. There are 1 figure, 5 tables and 2 Slavic references.

ASSOCIATION: UKhIN

AVAILABLE: Library of Congress

Card 2/2

STEPANENKE, M.A.

68-7-11/16

AUTHORS: Stepanenko, M.A., Matusyak, N.I. (UKhIN), Kuleshov, P.Ya., and Saltan, P.L.

Intensification of the Process of Production of High Melting Pitch. (Intensifikatsiya protsessa polucheniya vysokoplavkogo TITLE: peka).

PERIODICAL: Koks i Khimiya, 1957, Nr 7, pp.43-46 (USSR)

ABSTRACT: The use of oxygen for the intensification of the process of production of high melting pitch was investigated on a laboratory and works' scale. The comparison of laboratory experiments of blowing medium pitch, pitch tar and their mixture (75% + 25% respectively) with air and oxygen is given in Table 1 and Fig.1. When blowing with oxygen (18 1/hr per kg of pitch) the waste gas contained about 60 to 70% of oxygen. Better utilisation of oxygen was obtained when additional mechanical stirring was applied, so that oxygen consumption was reduced to 6 1/hr per kg of pitch per oxygen consumption was reduced to 6 1/hr per kg of pitch per hr (Table 2). Industrial experiments were carried out in two continuously operating reactors joined in series. Dimension of the reactor: d = 3 m; h total 4.7 m, the ratio of h pitch to d = 1.6; charge 59 tons. The comparison of results obtained in laboratory and works' experiments is given in Table 3. It was found that by replacing air with oxygen, Card

1/2

68-7-11/16

Intensification of the Process of Production of High Melting Pitch.

the reaction time and the total oxygen consumption can be decreased by 2.5 - 3.0 times (at similar blowing velocities), or the reaction time can be decreased by 1.5 - 2.0 times with a decrease in the total consumption of oxygen by 6-7 times (in comparison with air). In the latter case the use of mechanical stirring is necessary. In considering the most suitable type of apparatus for blowing oxygen it is stated that a bubbler type reactor is the most suitable. There are 3 tables and 2 figures.

ASSOCIATION: Zaporozhskiy Coke Oven Works. (Zaporozhskiy Koksokhimicheskiy Zavod).

AVAILABLE: Library of Congress

Card 2/2

PERIODICAL: KOKS I KULELYG, 100 F. ABSTRACT: Laboratory experiments on the production of pitch with high softening temperatures are described. It was possible

night solvening temperatures are described. It was possible to obtain two types of pitch: (a) pitch with a softening to obtain two types of pitch: (a) pitch with a softening above 1500C but fluid at high temperatures and (b) pitch with GARDR86-00913R00 1653120020-1" peratures and (b) pitch with a remaining solid at 30001.001" high melting temperature and remaining solid at 30001. the production of the latter type of pitch mechanical agitation was found to be necessary. The apparatus used is tation was found to be necessary. The apparatus used is the solution in Fig.1; experimental conditions in Table 2; propersions of pitches obtained and their elemental composition in Table 2 and 2 respectively: Tables 2 and 3 respectively; the evolution of gas on coking of high softening pitch in Figs. 2 and 3; plastometric properties of pitch with volatile content of 18.5% in Fig.4. There are 3 tables and 4 figures.

ASSOCIATION: UKhIN.

Library of Congress. AVAILABLE:

Card 1/1

68-58-2-5/21

AUTHORS: Stepanenko, M.A., Soldatenko, Ye.M., Matusyak, N.I.

and Bogoyavlenskiy, K.A.

TITLE: X-ray Analysis of Pitch Cokes (Rentgenostrukturnyy

analiz pekovykh koksov)

PERIODICAL: Koks i Khimiya, 1958, Nr 2, pp 31 - 35 (USSR)

ABSTRACT: Results of X-ray structural investigations of pitch cokes from Zaporozhe, Khanzhenskovsk and Kemerovsk Coke Oven Works are described. In the evaluation of pitch coke as a raw material for the electrode industry, the most important is not so much its initial characteristics, but the dynamics of changes of the individual indices on thermal treatment and in particular the ability to increase the density. Therefore, not only initial samples were studied, but also samples which were submitted to ignition and graphitisation in industrial furnaces of the Dneprovsk Electrode Works. In addition to parameters of X-ray structural analysis, as indices characterising the coke substance and its structure, the chemical composition, specific gravity and specific electrical conductivity were determined. Copper radiation with a nickel filter was used for X-ray powder photographs. As a criterion of the degree of order, the sizes of "packets" along c and a axis were taken, i.e. the width of interference bands (002) and (10)

X-ray Analysis of Pitch Cokes

68-58-2-5/21

The results obtained are assembled in the table.
There are 2 figures, 1 table and 7 Soviet references.

ASSOCIATION: UKhIN

AVAILABLE:

Library of Congress

Card 2/2

1. Coke - Properties 2. Coke - Structural analysis 3. Coke - X-ray analysis 4. X-rays - Applications

SOV/68-59-4-13/23

AUTHORS:

Gogoleva, T.Ya. and Stepanenko, H.A.

TITLE:

Surface Tension, Density and Viscosity of Coal Tar Pitch

(Poverkhnostnoye natyazheniye, plotnost' i vyazkost'

kamennougol'nogo peka)

PERIODICAL: Koks i Khimiya, 1959, Nr 4, pp 42-45 (USSR)

ABSTRACT:

An investigation of the above properties of coal tar pitches at elevated temperatures produced on the Zaporozhye Works has been carried out. The characteristic data on pitches investigated are given in table 1 and the results obtained in table 2 and figures 3-6. The apparatus used for the determination of surface tension and viscosity are shown in Fig 1 and 2 respectively. It was found that the temperature-density relationship in the region of high temperatures (180 to 360°C) is linear. Coefficients of thermal expansion of pitches with softening temperatures 65, 83 and 145°C were calculated and the dependence of the above coefficients on the softening temperature of pitch was determined (an increase of the softening temperature by 1° is accompanied by a decrease in the coefficient of thermal

Card 1/2

SOV/68-59-4-13/23

Surface Tension, Density and Viscosity of Coal Tar Pitch

expansion by 0.00000l). The viscosity of medium pitches within the temperature range 155 to 295°C and of high softening pitch in the range of 240 to 345°C was determined (Fig 5). The dynamics of changes in the viscosity of pitch with increasing heating temperature were studied. Two regions of a sharp change in the viscosity of pitch were observed: one on passing from the solid state into the plastic state and the other on passing from plastic state into the fluid state (Fig 6). There are 6 figures and 2 tables.

ASSOCIATION: UKhIN

Card 2/2

GOGOLEVA, T. Ya., STEPANENKO, N.A.

Thermography of the coking process of coal-tar pitches. Koks i khim. no.3:47-51 '60. (NIRA 13:6)

1. Ukrainskiy uglekhimicheskiy institut.
(Pitch)

# STEPANENKO, M.A.; MATUSYAK, N.I.

Physicochemical properties of pitch coke. Noke i khim. no.6:28-31 '60. (MIRA 13:7)

1. Ukrainskiy uglekhimicheskiy institut. (Coke)

STEPANENKO, Mariya Aleksandrovna; ERON, Yakov Abramovich; KULAKOV,
Nikolay Konstantinovich; LEYTES, V.A., otv.red.;
LIBERMAN, S.S., red.izd-va; ANDREYEV, S.P., tekhm.red.

[Production of pitch coke] Proizvodstvo pekovogo koksa.
Khar'kov, Gos.nauchno-tekhn.izd-vo lit-ny po'emernoi i
tsvetnoi metallurgi4; 1961. 311 p. (MIRA 14:7)

(Göke industry—Equipment and supplies]

STEPANENKO, M.A., MATUSYAK, N.I.

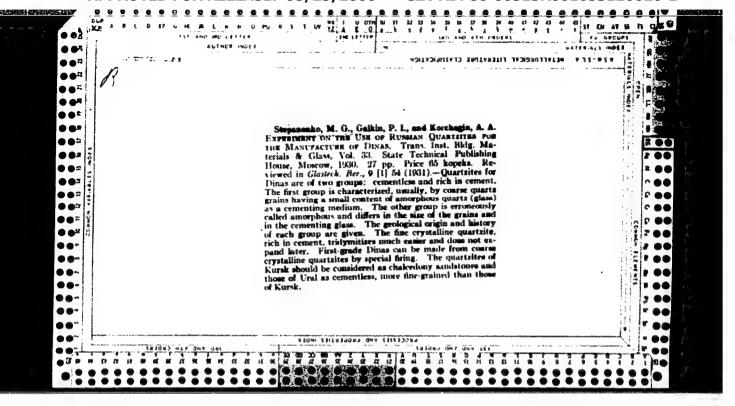
Physicochemical characteristics of coal pitch coke. Koks i khim. no.1:29-33 163. (MIRA 16:2)

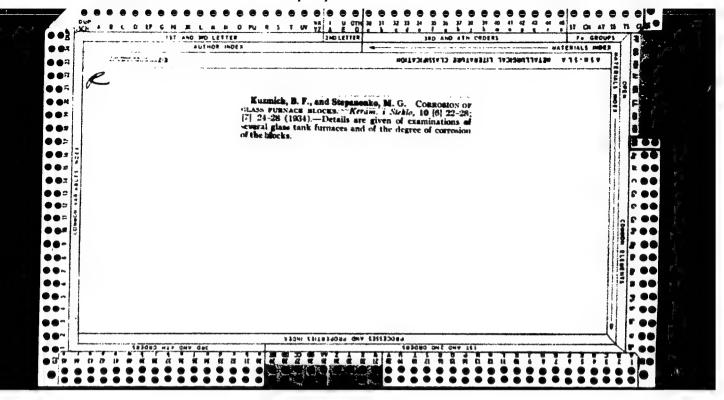
1. Ukrainskiy uglekhimicheskiy institut. (Coke—Testing)

STEPANENKO, M.A.; GOGOLEVA, T. Ya.

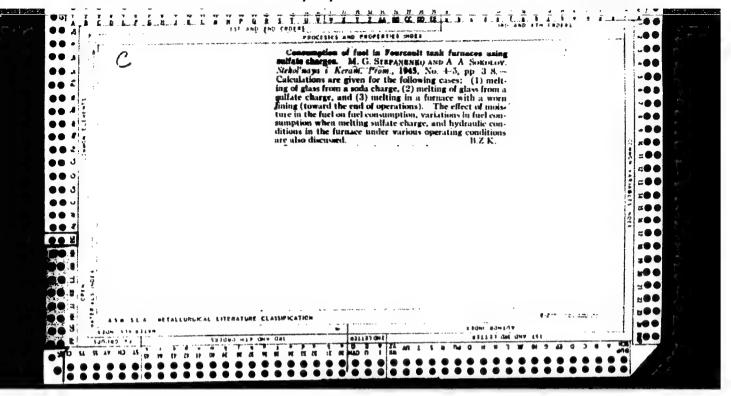
Uses of coal-oil pitch. Koks i khim. no.12:43-45 '63.

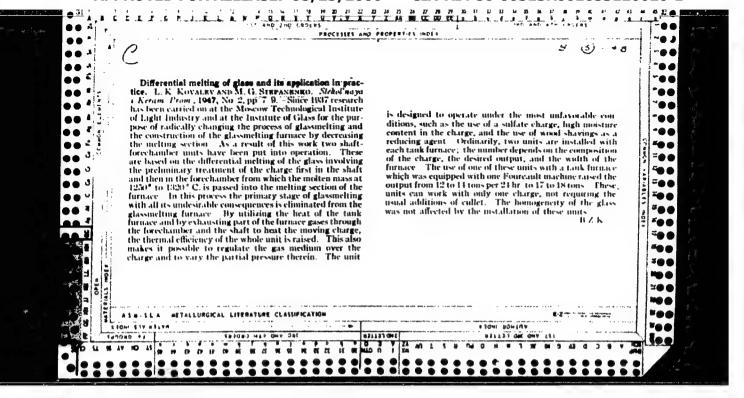
(MIRA 17:1)

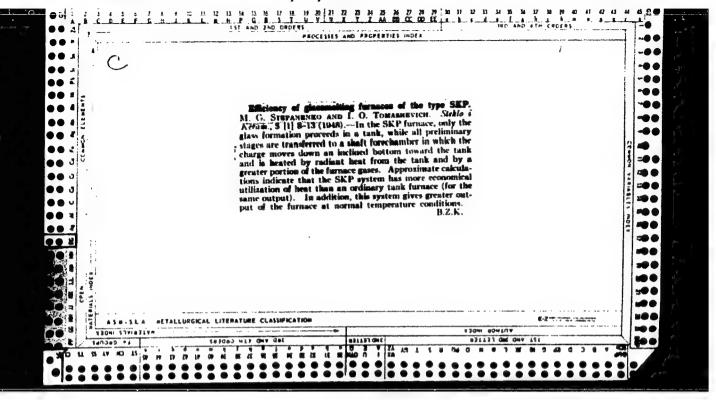


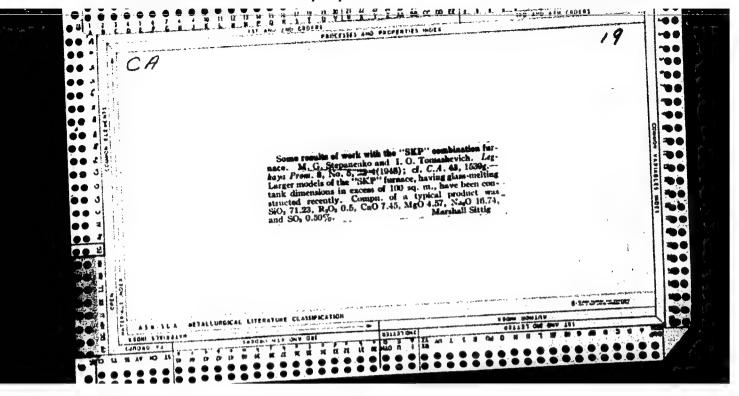










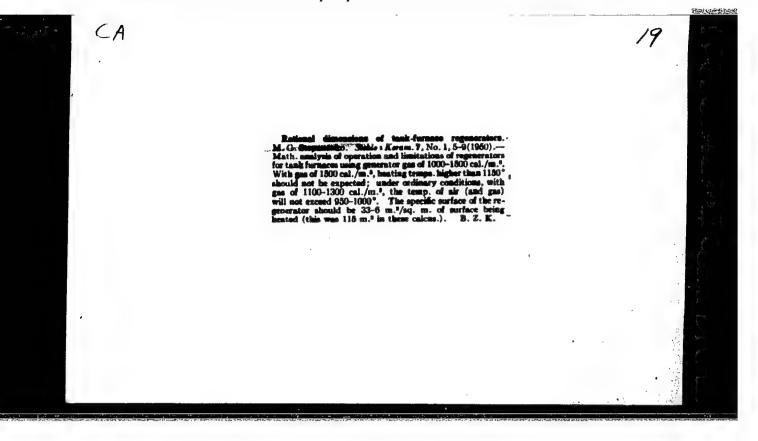


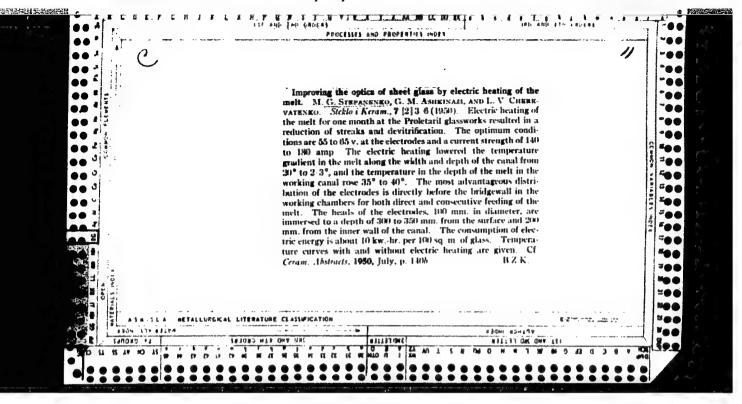
SPEPARENKO, M. G.

Electric heating of glass in the Foureault channel. G. M. Ashkinazi, E. V. Zhukovskii, and M. G. Stepanenko. Steklo i Kerem., 6 (3) 3-9 (1949).

-Electric heating was undertaken to combat streaks and devitrification. The electrodes (3-in. steel tubes) were immersed to a depth of 20cm. It was possible to attain complete isothermy of the melt under the debiteuse, with a total rise in temperature in this zone of 30°. Temperature distribution along the depth of the melt in the preheating chambers was considerably improved. Temperature difference between the surface and a depth of 55 cm. was reduced from 160° (original temperature) to 110°C. Equalization of temperature was caused by a 15° to 20° drop in the upper levels and a 30° to 40° rise at a depth of 30 to 55 cm. At a depth of 55 cm., the temperature rose from 990° to 1030°, thus eliminating the possibility of crystallization. Devitrification was completely eliminated, and streaks were considerably reduced. Temperature curves and a schematic diagram of the electrical system are given.

B.Z.K.





EYGENSON, L.S., doktor tekhnicheskikh nauk, professor; daktor; GRIBOVA, M.P., tekhnicheskiy redaktor.

[Making models] Modelirovanie. Moskva, Gos.izd-vo "Sovetskaia nauka," (MIRA 8:5)

(Engineering models)

STEPANENKO, M.G., professor, doktor tekhnicheskikh nauk

Importance of the convection flow in glass furnaces. Stek.i ker. 12 no.9:17-22 S\*55. (MIRA 8:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut stekla (Glass manufacture)

STEPANENKO, M.G., doktor tekhnicheskikh nauk, professor.

Design of a glass tank furnace. Stek. i ker. 13 no.9:27-28 S 156. (MLRA 9:10)

(Glass manufacture)

8 (4)

SOV/112-57-5-10448

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 5, p 131 (USSR)

AUTHOR: Stepanenko, M. G., Lur'ye, V. M.

TITLE: Design of Electric Glass-Melting Furnaces

(Proyektirovaniye elektricheskikh steklovarennykh pechey)

PERIODICAL: Tr. Vses. n.-i. in-ta stekla, 1956, Nr 36, pp 51-70

ABSTRACT: Electric glass-melting furnaces have a number of advantages compared to flame-type furnaces; it is expected that in the near future, when new large electric stations will be put in operation, such furnaces will receive wide usage in the USSR. At present, however, the problems of design and construction of glass-melting furnaces have not been satisfactorily solved, either in the USSR or abroad. In designing electric glass-melting furnaces, their fundamental parameters are selected after those of the flame-type furnaces, or else they are selected arbitrarily. As a result, the per-unit energy consumption of actual electric furnaces fluctuates widely. The prospects of electric glass melting require that reliable methods for designing

Card 1/4

SOV/112-57-5-10448

Design of Electric Glass-Melting Furnaces

the furnaces be developed, particularly methods for furnaces of 80-120 tons per day capacity. The principal distinguishing feature of electric glass melting is that heat is produced within the glass melt proper; the heat is not transmitted via the glass-melt surface as in the flame-type furnaces. This results in a more uniform temperature distribution over the entire glass-melt volume, and in lower maximum temperatures at individual points; the temperature under the furnace roof does not exceed 1,250°C, which results in a higher electrode and lining durability. The process in an electric furnace can be forced by using higher glass-melt temperatures. Horizontal convection in an electric furnace is weak, and the furnace outlet requires additional heating. The glass-melt surface in the electric furnace is a cooling surface, hence the viscosity of the surface layers is higher. This can be prevented by a lower roof, by coating the surface with a special mixture, by a vacuum, and by placing high-capacity electrodes near the surface. Decreasing the surface area and making the bath deeper did not result in a decrease of heat losses

Card 2/4

SOV/112-57-5-10448

Design of Electric Glass-Melting Furnaces

through the surface because the losses through the walls increased. An operating voltage of 70-110 v is used; it can be increased to 220 v. The bath width must be limited in order to limit the voltage. As glass melt is electrically hot, workers and glass-forming machines that come in contact with the glass melt must be insulated from the ground. Usually the single-phase type of electric furnace is used. The most expedient surface configuration is a long rectangle. Attempts to construct a 3-phase furnace have been unsuccessful so far. The construction of an electric glass-melting furnace is much simpler than that of a flame-type; the electric furnaces are usually protected by a metal housing. Three types of electrodes are used; the wall type, the through type, and the semi-through type. The electrodes are made from a graphitized carbon or from high-melting metals. The latter require compressed-air cooling, which lowers their efficiency. With through-type electrodes, the temperature and current-density distribution over the glass melt is nonuniform because of different cooling conditions at various spots of

Card 3/4

SOV/112-57-5-10448

# Design of Electric Glass-Melting Furnaces

the melt. Wall-type graphitized electrodes are the best. Thermal and electrical calculations of an electric glass-melting furnace are difficult, and in practice the required power is determined on the basis of the bath volume. The design methods for a single phase wall-electrode furnace suggested by the authors permit determining its fundamental parameters with sufficient accuracy, except for the calculated resistivity at various spots of the melt, which is associated with the distribution of working temperatures. Capacity per unit volume and energy consumption per ton of the glass produced are two most characteristic performance data.

V.P.Kh.

Card 4/4

AUTHOR:

Litepanenko, M. C.

SOV/72-58-9-4/17

TITLE:

Nomogram for the Fetermination of the Specific Heat Consumption in Glass Melting (Nomogramma alya opredeleniya

udel'nogo raskhoda tepla na varku stekla)

Post [ODICAL:

Steklo i keramika, 1958, Nr 8, pp. 8-12 (USS2)

ABSTRACT:

The thermal parameters of the thermochanical reactions of glass melting have been known for a long time and were published by M. A. Matveyev, B. A. Kleymenov (Ref 1) as well as by Kräger (Ref 2) in technical literature. Also Kuzyak, Sukhov (Ref 2)and Frdessor Ginzburg (Ref 3) carried out research work in this field and obtained higher parameter values. The author prefers the data supplied by Kräger as his conceptions coincide with those by Professor M. A. Bezborodov, I. D. Tykachinskiy and others, and he constructs the nomogram on the basis of his data. (See table). Temperatures of 1450-1500 were assumed as to dominate in the practice of industrial glass melting (Table 1). For the calculation of the specific heat consumption that temperature is taken as heating temperature at which the glass mass is

Card 1/3

SOV/72-58-8-4/17

Nomogram for the Determination of the Specific Heat Consumption in Glass

Melting

entering the cooling and working zone. The influence of the factors - the ratio between charge and broken glass, as well as the humidity content of the charge - are described in detail. The elaborated nomogram (see figure) consists of 6 fields and takes into account the ratio between soda and sulfate, the humidity content of the charge, the maximum furnace temperature, the heating of the charge gases, the amount of broken glass and the correction for sodium sulfate. A number of published calculations of the heat consumption in the melting of 1 kg metal is mentioned (Table 2). Then the utilization of the nomogram is described and illustrated by examples. In table 3 the recalculation results carried out by means of the nomogram of earlier published values of the specific heat consumption in the melting of various kinds of glass is mentioned. By means of this nomogram the exact values of the specific heat consumption can be cbtained on different conditions. This way the degree of the efficiency of various ash furnaces can be compared. There are 1 figure, 4 tables, and 8 references, 5 of which are 5.75.4常。

Card 2/3

Nomogram for the Determination of the Specific Heat Consumption in Glass Melting

1. Galss--Melting 2. Heat--Measurement 3. Nomographs--Preparation

Card 3/3

AUTHOR: Stepanenko, M. G. S0V/72-58-9-1/20

TITLE: The Efficiency of Glass Melting Tank Furnaces (Koeffitsiyent

poleznogo deystviya vannykh steklovarennykh pechey)

PERIODICAL: Steklo i keramika, 1958, Nr 9, pp 1 - 3 (USSR)

ABSTRACT: The efficiency of pot and tank furnaces is usually com-

puted according to the following formula

 $\eta = \frac{Q \text{ utilized}}{Q \text{ applied}}$  . 100 where  $Q_{\text{applied}}$  denotes the entire

heat content of the fuel burned in the furnace, and  $\mathbf{Q}_{\text{utilized}}$  denotes the amount of heat required for the

melting of the batch. For the computation of Qutilized

no customary method is established. Hence the results obtained by different authors vary, as it is corroborated by the papers by V.A.Kuzyak. A.A.Sukhov. D.B.Ginzburg

by the papers by V.A.Kuzyak, A.A.Sukhov, D.B.Ginzburg and M.G.Stepanenko (Ref 1). The Soviet scientists V.G.Gutop, D.B.Ginzburg as well as foreign ones found

Card 1/3 that the conception of Quilized as denoting only the

The Efficiency of Glass Melting Tank Furnaces

SOV/72-58-9-1/20

amount of heat required for the melting of the glass is erroneous. They, however, abstained from giving a precise definition of this quantity and thus did not make possible a determination of the true value of the efficiency  $\eta$ . According to Professor I.I.Kitaygorodskiy (Ref 1) the reaction of glass formation of commercial glass types proceeds according to information given in the table. It can be seen that the de-gasification of the melt requires higher temperatures than the melting process proper. The amount of heat consumed in that process must be added to the quantity of Qutilized. Thus the efficiency of the furnace is increased as can be seen from the figure. The computation of the heat required for the de-gasification meets with difficulties. On the basis of data published by a number of authors (Maurakh, Udovenko, Ginzburg, Kuzyak, Sukhov) the heat required for de-gasification can be assumed to amount to 50% of the heat of melting. Experiments carried out by the Institut ispol'zovaniya gaza AN USSR(Institute of Gas Utilization AS USSR) and by the Teplotekhnicheskaya laboratoriya GIS(Heat Engineering Laboratory GIS) yielded

Card 2/3

#### "APPROVED FOR RELEASE: 08/25/2000

#### CIA-RDP86-00513R001653120020-1

The Efficiency of Glass Melting Tank Furnaces

SOV/72-58-9-1/2c

the same results. A separate heating of the fining zone permits to reduce the heat consumption. Investigations of furnaces in operation permit to design perfected types of furnaces, in which the melting and the fining zone are run under optimum conditions. The values of Qutilized computed in this way will permit to compare the advantages of different furnace processes in a correct manner and to pass an accurate judgement on them. There are 1 figure, 1 table, and 8 references, 5 of which are Soviet.

ASSOCIATION:

Gosudarstvennyy nauchno-issledovatel'skiy institut stekla (State Scientific Research Institute of Glass)

Card 3/3

. AUTHORS:

Krechmar, V. A., Stepanenko, M. G.

507/72-58-10-7/18

TTTLE:

Influence Exerted by Gas Density of the Bricking of the Regenerative System of Class-Melting Furnaces Upon Their Efficiency (Vliyaniye gazoplotnosti kladki regenerativnoy sistemy steklovarennykh pechey na ikh koeffitsiyent poleznogo

deystviya)

PERIODICAL:

Steklo i keramika, 1958, Nr 10, pp 28-30 (USSR)

ABSTRACT:

Teplotekhnicheskaya laboratoriya Instituta stekla (Thermal Engineering Laboratory of the Glass Institute) investigated within the last two years a number of glass-melting tank furnaces for the manufacture of sheet-glass. It was found that by premature combustion of gas, by sucking of air of untight bricking the heating power of the gas is reduced by 8-17 %. On the basis of numerous analyses of the composition of generator gas in tank furnaces of the plants Lisichansk, Gor'kiy, Konstantinovka imeni Oktyabr'skaya revolyutsiya the diagram (Fig 1) was established from which the heating power of the gas in the individual cases can be determined. Figure 2 shows the dependence of the burning temperature upon the quantity of excess air in the use of purified gas

Card 1/2

SOV/72-58-10-7/18
Influence Exerted by Gas Density of the Bricking of the Regenerative System of Glass-Melting Furnaces Upon Their Efficiency

in Gor'kovskiy stekol'nyy zavod (Gor'kiy Glass Works) as well as of gas not purified in Bytoshevskiy stekol'nyy zavod (Bytosh Glass Works). In order to obtain a certain temperature level in the furnace, more gas must be added, thus increasing the fuel consumption (Fig 3). These deficiencies were observed in all furnaces examined by the Glass Institute. In order to eliminate these deficiencies it is necessary to seal the joints in the brick work as described in the papers of Nokhratyan. At present, D. B. Ginzburg, M. A. Matveyev (MKhTI) are carrying out experiments with a new sealing plaster in the plant imend Cor'kiy. The fuel-consumption of the furnace is reduced by sealing of the walls, thus increasing the output of the furnace considerably. There are 3 figures.

Card 2/2

## "APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001653120020-1

15(2) AUTHOR:

Stepanenko, M. G.

SOV /72-58-12-3/23

TITLE:

Gas-Electric Tank Furnaces for Glass Melting (Gazoelektricheskiye steklovarennyye vannyye pechi)

PERIODICAL:

**科学的机器是是1000的自己的主义的联系和联系的工作。** 

Steklo i keramika, 1958, Nr 12, pp 8 - 13 (USSR)

ABSTRACT:

As an example of such installations, the author describes the furnaces of the Karkula factory (Finland), featuring a combined oil and electric heating system. (Figs 1,2 and 3). The latter is effected by means of special air atomizers and

mclybdenum electrodes. The working temperature of the furnaces amounts to 1530 - 1550° (crystallizing range) and 1450° (feeding range). Figures 4 and 5 show the arrangement of the electrodes. Further, the fuel consumption in the furnaces and the current density of the electrodes are indicated and described as being too high for molybdenum electrodes, according to the paper by E.V.Borel' (Ref 1). In figure 6 the electrodes

are distributed in such a way as to secure their symmetrical performance; the author assumes the

Card 1/3

Gas-Electric Tank Furnaces for Glass Melting

SOV/72-58-12-3/23

operation of the electrodes to be individually controlled. The table shows the specific heat consumption, depending on the specific output at a tank surface of 20 m2; in figure 7 this dependence is represented graphically. In conclusion the author states that gas-electric furnaces represent a progressive furnace type and that it would be therefore useful to adopt them in the glass industry of the USSR for the manufacturing of piece products. The construction of such furnaces must be sped up in the Moldavskaya SSR. At the Gor'kovskiy stekol'nyy zavod (Gor'kovskiy glassworks) the changing over of a large furnace producing 140-160 t sheet glass a day to the gaselectric heating system is to be effected. As no experience in this connection has yet been made, the performance of these furnaces is to be thoroughly investigated, in order to obtain the prerequisites for the quickest possible charging over of other sheet glass producing furnaces. Measures must also be taken, in order to secure the production of molybdenum electrodes in the USSR. There are 7 figures, 1 table and 1 Soviet

Card 2/3

# "APPROVED FOR RELEASE: 08/25/2000 CIA-I

CIA-RDP86-00513R001653120020-1

Gas-Electric Tank Furnaces for Glass Melting reference.

SOV/72-58-12-3/23

Card 3/3

	SOV/72-56-12-21/2) Sonference of Punctionaries of the Glass Industry (Sonsabchange rebonnicor stato) froy prosymblencett) (Sonsabchange rebonnicor stato) pp 45-46 (USSB) Stable i sersalia, 1956, Br 12, pp 45-46 (USSB) The conference of functionaries of the glass industry of the R/2B The sheld in the team of Thattary free October 21-23, 1956, The or- set baild in the team of Thattary free October 21-23, 1956, The or-	Some in interest of the Signian Following a characteristic of the state of the Signian Following and the Signian Following the Signian	the lyhing a post of the post	
į	,25(1),25(5) AUTHUR: TITLE: PERIODICAL: ABSIRACE:	Card 1/5	C7 818 5	6/4 1/2

VILNIS, K.K.; POLLYAK, V.V.; STEPANENKO, M.G.

Most satisfactory temperature conditions for the melting end of glass tank furnaces. Stek. i ker. 15 no.4:1-5 Ap. 58. (MIRA 11:5)

1. Institut stekla. (Glass furnaces)

SOV/72-59-3-3/19

15(2), 15(6) AUTHORS:

Vilnis, K. K., Stepanenko, M. G.

TITLE:

Heat Exchange Between the Charge and the Hearth of the Glass Melting Furnace (Teploobmen mezhdu shikhtoy i plamennym

prostranstvom steklovarennoy pechi)

PERIODICAL:

Steklo i keramika, 1959, Nr 3, pp 8 - 11 (USSR)

ABSTRACT:

The authors state that data contained in publications are very contradictory with respect to the dependence of the melting rate of glass as well as the furnace efficiency on temperature (Figs 1 and 2), and are therefore not a reliable basis for the intensification of the melting process in tank furnaces. Relatively few investigations have so far been carried out in the field of heat exchange research (D. B. Ginzburg, Ref 1). The present paper offers an explanation of heat exchange between the upper furnace structure, the charge, and the charge foam in the melting region, basing on K. K. Vilnis' paper (Ref 2). Figure 3 shows the dependence

Card 1/2

of temperature of the charge surface on the magnitude of

Heat Exchange Between the Charge and the Hearth of the SOV/72-59-3-3/19

the heat current flowing onto it, and figure 4 depicts the heat amount absorbed by the charge. Figure 5 gives the variations of temperature in every point of the charge surface. The heat amount absorbed by the melting zone depends, firstly, on the ratio of the areas occupied by the charge and the charge foam, and secondly, on the magnitude of the absolute temperature in the upper structure. The efficiency increase of tank furnaces for glass melting is not only brought about by providing high temperatures, but also by the rational exploitation of the heat exchange both in the gas zone and in the glass mass. Further accurate investigations are required for this purpose. There are a rigures and 4 references, 3 of which are Soviet.

Card 2/2

# "APPROVED FOR RELEASE: 08/25/2000 CIA-

CIA-RDP86-00513R001653120020-1

15(2) AUTHORS:

Stepanenko, M. G., Pavlov, V. S.

SOV/72-59-4-2/21

TITLE:

On the Effect of a Blocking Device on the Thermal Balance of the Cooling Part of a Tank Furnace (Vliyaniye zagraditel nogo ustroystva na teplovoy balans studochnoy chasti vannoy pechi)

PERIODICAL:

Steklo i keramika, 1959. Nr 4, pp 6-11 (USSR)

ABSTRACT:

For the purpose of increasing the specific output of metal, the melting temperature of the furnace must be increased. Since the working temperature of the glass mass must, however, remain unchanged in this case, the processing part of the furnace had to be screened off. However, it was found in this connection that the temperature of the flow of the glass mass to be processed was considerably lower. Since nothing else had been changed in the design of the furnace this could only be explained by the introduction of the lower colder glass mass plained by the introduction of the lower colder glass mass into the flow to be processed which was confirmed by temperature measurements performed by the teplotekhnicheskaya laborature measurements performed by the teplotekhnicheskaya laborature at Institute stekla (Heat Engineering Laboratory of the Class Institute) and foreign investigations (Ref 1). This might, however, cause deterioration of the quality of the glass mass. For this reason, investigations had to be carried

Card 1/3

On the Effect of a Blocking Device on the Thermal Balance of the Cooling Part of a Tank Furnace

SOV/72-59-4-2/21

out in order to find a design of screening which would guarantee an increased cutput of glass mass without a deterioration of the quality. In figures 1.2.3, and 4 the different types of furnaces with and without shuttle are shown and discussed, The velocity of the upper layer of the glass mass was determined by using floats and the amount of the convection currents by using the A. A. Sokolov formula (Ref 2), In table 1 the technical and operational characteristics of the furnaces investigated are given and table 2 gives the thermal balances of the cooling parts of the tank furnaces. In table 3 the balance of the glass mass in the range of the blocking devices of the furnaces is given, Maximum specific temperature drops may be observed in tanks with deeply immersed shuttles and low screens. This explains the opinions expressed by I. I. Tukh and M. B. Epel'baum (Ref 3). In table 4 the thermal balances of the flow to be processed in the range of the screening device of the furnaces investigated are given, Figure 5 shows the dependence of the output of first-quality glass on the coefficient of the introduction of the metal. The investigations carried out of the furnace output as well as the operational

Card 2/3

On the Effect of a Blocking Device on the Thermal Balance of the Cooling Part of a Tank Furnace

SOV/72-59-4-2/21

and technical values are considered to be a beginning of the investigations of a screening device which makes it possible to find an optimum design and optimum operational conditions for increasing the fusibility of the tank furnaces without risks. The influence exercised by the blocking device on the quality of the production must also be thoroughly investigated. There are 5 figures, 4 tables, and 4 references, 3 of which are Soviet.

Card 3/3

#### PHASE I BOOK EXPLOITATION SOV/5484

Stepanenko, Mikhail Georgiyevich

Futi sovershenstvovaniya vannykh steklovarennykh pechey (Ways of Improving Vat Glass Furnaces) Moscow, Gosstroyizdat, 1960. 160 p. Errata slip inserted. 2,200 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-issledovatel'skiy institut stekla.

Ed. of Publishing House: S. A. Gladysheva; Tech. Ed.: L. A. Gerasimuk.

PURPOSE: This book is intended for glass technologists.

COVERAGE: The book describes reverberatory, electric, and gas-and-electric vat furnaces for the manufacture of glass. Heating methods, fuel supply, heat distribution, heat exchange, work space arrangement, and the effect of partition structures on the opertional efficiency of these in large industrial furnaces are discussed. Recommendations are made for improvements in the design and construction of special purpose vat glass furnaces. The Card-1/3-

Ways of Improving (Cont.) SOV/5484 author thanks I. O. Tomashevich and V. V. Pollyak, Candidates of Technical Sciences; K. K. Vilnis, Scientific Worker; V. S. Pavlov, Aspirant; and V. D. Soskova, Junior Scientific Worker. There are 84 references: 56 Soviet, 20 German, and 8 English. TABLE OF CONTENTS: Introduction 3 Ch. I. Present State of Glass Vat Furnaces in the USSR 5 Ch. II. Vat Furnace as a Technological Unit 9 Ch. III. Glass Furnace as a Heat Exchange Unit 14 Ch. IV. Prospects of Developing and Increasing the Technical and Economic Efficiency of Glass Furnaces 138 Card 2/3

PATRIM, P.A.; inzh.; KISHENEV, V.F.; TSIPENYUK, M.I., inzh.; VOZNESENSKIY, A.A., kand.tekhn.nauk; SELOV, V.G., LUR'YE, M.S.; STEPAHENKO, M.G., prof.

Over-all mechanization and automatization of the heat treatment of ceramic stones (comment on M.I. Rogovyi's and D.O. Konovalov's article). Stroi. mat. 6 no.3:25-27 Mr '60. (MIRA 13:6)

1. Severo-Kavkazskaya nauchno-issledovatel skaya stantsiya po stroitel stvu i stroitel nym materialam (for Patrin).

2. Zaveduyushchiy laboratoriyey tresta karagandastroymaterialy (for Kishenev). 3. Ukrgiprostroymaterialy (for TSipenok). 4. Zaveduyushchiy kafedroy energeticheskogo oborudovaniya i avtomatiki Rostovskogo inzhenerno-stroitel-nogo instituta (for Voznesenskiy). 5. Glavnyy inzhener instituta Rosstromoproyekt (for Sedov). 6. Glavnyy teplotekhnik instituta Rosstromproyekt (for Iur'ye).

(Kilns) (Automatic control)

## "APPROVED FOR RELEASE: 08/25/2000

#### CIA-RDP86-00513R001653120020-1

STEPANENKO, M.G.

"Glass" by N.Kachalov. Reviewed by M.G.Stepanenko. Stek.i ker.

(MIRA 13:5)

(Glass manufacture)

(Kachalov, N.)

STEPANENKO, M.G.; PAVLOV, V.S.

Ways of improving the productivity of pot furnaces for plate glass.

Stek.i ker. 18 no.8:12-15 Ag '61.

(Glass furnaces)

(Glass furnaces)

MEHEDIOV-THEROSYAN, C.P.; CHARLEHK, H.G.

Electrochemical activation of coments. Dohl. All SSER 141
ro.1:172-175 H '61. (HEA 14:11)

1. Fredstavleno akademikon H.V.Belovym. :

(Coment)

(Electrochemistry)

NOKHRATYAN, Koryun Amazaspovich, kand. tekhn. nauk; STEPANENKO, M.G., doktor tekhn. nauk, prof., nauchnyy red.; NAUMOV, M.M., kand. tekhn. nauk, nauchnyy red.; ROGOVOY, M.I., laureat Gosudarstvennoy premii, nauchnyy red.; KOSYAKINA, Z.K., red. izd-va; RUDAKOVA, N.I., tekhn. red.

[Drying and firing in the structural ceramis industry]Sushka i obzhig v promyshlennosti stroitel'noi keramiki. Moskva, Gosstroiizdat, 1962. 602 p. (MIRA 15:12) (Ceramics) (Building materials)

#### "APPROVED FOR RELEASE: 08/25/2000 CI

#### CIA-RDP86-00513R001653120020-1

STEPANENKO, M.G., doktor tekhn.nauk, prof.; PAVLOV, V.S.

Method of calculating tank glass furnaces with developed working end arrangements. Stek. i ker. 19 no.3:1-6 Mr '62. (MIRA 15:3) (Glass furnaces)

STEPANENKO, M.G., doktor tekhn.nauk, prof.; LIFSHITS, A.V., inzh.; SIMIN, G.F., inzh.

Study of heat exchange in tunnel kilns during the firing of ceramic wall materials. Stroi.mat. 8 no.7:28-30 Jl 162.

(MIRA 15:8)

(Ceramics) (Kilns)

VILNIS, ..., STEPANETER, M.G., doktor tolbn. mauk [deceased];

Optimal depth of furnaces for dark green glass. Stek. i ker. 21 no.1:9-13 Ja '64. (MIRA 17:8)

1. Institut stekla (for Vilnis, Stepanenko). 2. Krasnodarskiy stekol'nyy zavod (for Kaplan).

83579

24.2120 26.2310 \$/056/60/038/005/012/050 B006/B070

AUTHORS:

Koval'skiy, N. G., Podgornyy, I. M., Stepanenko, M. M.

TITLE:

Card 1/4

Investigation of Fast Electrons in Strong Pulse Discharges

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 5, pp. 1439-1445

TEXT: At first, the authors describe the experimental arrangement and the method of measurement. The apparatus used was essentially similar to the pulse generator used for earlier investigations. The condenser bank consisted of 12 condensers of the type NM-3/50 (IM-3/50) with a total capacity of 36 µF. The discharge chamber was of porcelain, and had a length of 1 m and a diameter of 17 cm. During one discharge, the condenser bank supplied up to 45 kv. The discharge chamber was evacuated after each discharge and filled anew with gas (hydrogen, deuterium, or spectrally pure inert gases). The authors (partly in collaboration with others) had observed in earlier studies (Refs. 1-4) the appearance of a hard X-radiation and an acceleration of electrons (up to (300±20)kev for an initial discharge voltage of 40 kv) while investigating controlled

 Investigation of Fast Electrons in Strong Pulse Discharges

Card 2/4

83579 \$/056/60/038/005/012/050 B006/B070

thermonuclear reactions. Following these studies, the authors investigated the dependence of the maximum electron energy on the parameters of the discharge. The dependence of the limiting energy in the electron spectrum on the pressure of hydrogen in the discharge chamber (in the range  $4.10^{-3} \le p_0 \le 6.10^{-1}$  torr) was determined by means of a magnetic spectrograph, and is shown in Fig. 1. In the range  $2.10^{-2} \le p_0 \le 1.3 \cdot 10^{-1}$  torr the curve shows a high maximum; the peak value of the electron energy is 295kev. The pressure dependence of the electron energies is analogous to the pressure dependence of neutron yield in discharges in deuterium, but deviates somewhat from the pressure dependence of the limiting electron energy (E<sub>0</sub>) on the initial voltage U<sub>0</sub> was also investigated (for  $p_0 = 7.10^{-2}$ torr, in H<sub>2</sub>). Fig. 2 shows  $E_0(U_0)$  in the range  $30 \le U_0 \le 45$  kv.  $E_0$  steeply rises with  $U_0$  up to  $U_0 = 40$  kv, and then falls. Further,  $E_0$  was determined as a function of the strength of an external magnetic field in the range  $0 \le H \le 150$  oe (Fig. 3).  $E_0$  falls from 300 to 150 kev when the magnetic field increases from 0 to 30 oe; with a further increase of the field,  $E_0$  becomes less

83579

Investigation of Fast Electrons in Strong Pulse Discharges S/056/60/038/005/012/050 B006/B070

than 50 kev. The radial distribution of the fast electrons accelerated along the discharge axis was studied by means of a special collimator schematically shown in Fig. 4. Fig. 5 shows the radial distributions determined for  $p_0=7.10^{-2} \, \rm torr$  and three different thicknesses of the

Al filter (30, 54, and 75 $\mu$ ). Electron energies of 80, 110, and 140 kev, respectively, correspond to these thicknesses. The half width of the distribution curve decreases with increasing thickness of the filter. This shows that the non-equilibrium electron group is accelerated in the immediate neighborhood of the axis. Numerical results of the investigations of fast electrons in  $H_2$ ,  $D_2$ , and the inert gases are collected in

a table. The investigations led to the conclusion that in high-power pulse discharges there exist two groups of non-equilibrium electrons; the first group having energies of up to 100 kev is accelerated by the electric fields occurring with the pinch effect, while the second group, which has energies of up to 300 kev, is accelerated in the local electric fields resulting from instabilities of the plasma column. The authors thank S. Yu. Luk'yanov for discussions of the results. There are 5 figures, 1 table, and 8 references: 7 Soviet and 1 Italian.

Card 3/4

Investigation of Fast Electrons in Strong S/056/60/038/005/012/050 B006/B070
Pulse Discharges

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: December 19, 1959

## "APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001653120020-1

STEPANENKO, M.N.

USSR/Electronics - Radio station operation

Card 1/1

Pub. 133 - 6/16

Authors

Stepanenko, M. N.

Title

**建筑建筑地域的** Daily operations in a radio station

Periodical : Vest. svyazi 5, 12-13 May 1955

Abstract

A vivid description is presented of the daily operations and activities in a radio broadcasting station. Operation and maintenance of various radio station equipment is described, and names of some employees are given. Illustrations.

Institution :

Submitted

6,610

KRUK, M.T.; STEPANENKO, M.T.

Testing of a furnace with turbulent composite burners operating on natural gas by means of a chromatoscope. Energ. i elektrotekh. prom. no.1:14-18 Ja-Mr '63. (MIRA 16:5)

1. Yuzhnoye otdeleniye Gosudarstvennogo tresta po organizatsii i ratsionalizatsii rayonnykh elektrostantsiy i setey.

(Furnaces--Testing) (Gas burners--Testing)

POMETUN, G., stolevar; ONISHCHENKO, M., stolevar; STEPANENKO, N., stolevar.

Carrying out the directives of the Congress. Nauka i zhizn' 23 no.6:17-19 Je '56. (MLRA 9:9)

1. Ordena Lenina zavoda "Zaporozhstal"."
(Zaporozhye--Steel industry)

The second residence of the se

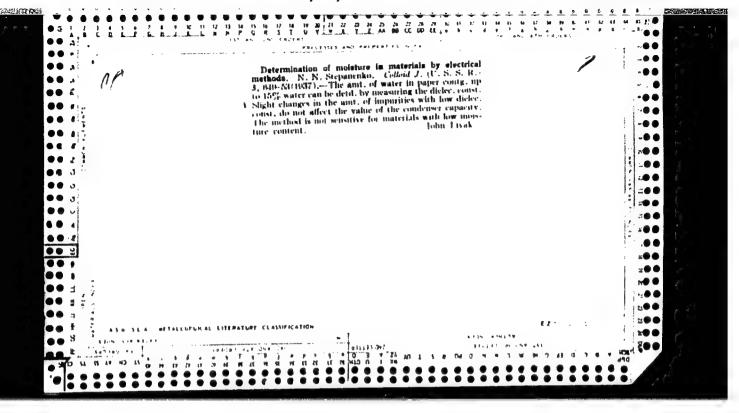
ONISHCHENKO, Mikhail Kirillovich, stalevar; POMETUN, Grigoriy Konstantinovich, stalevar; STEPANENKO, Hikolay Aleksandrovich, stalevar; VERETEL'NIK, I.V., inzhener, redaktor; ISLANKIMA, T.F., redaktor izdatel'stva; ISLENT'YEVA, P.G., tekhnicheskiy redaktor

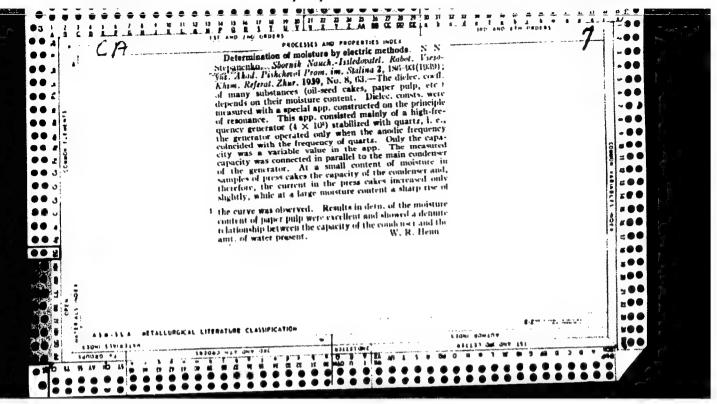
[Our experience with a rapid oxygen steel making process] Wash opyt skorostnogo stalevareniia s primeneniem kisloroda. Moskva, Izd-vo "Znanie," 1953. 23 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 4 no.6) (MIRA 9:7)

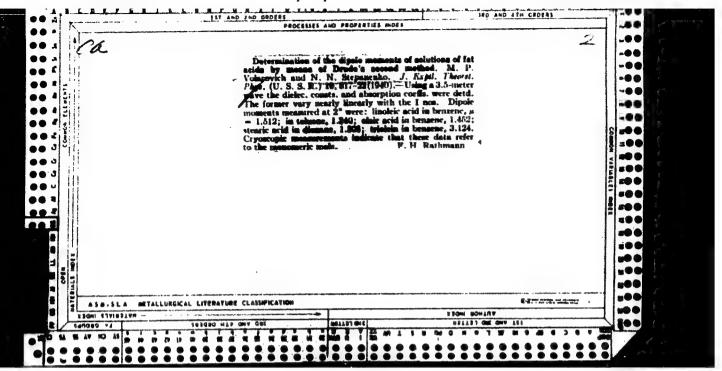
1. Ordena Lenina zavod "Zaporozhstal" (for Onishchenko, Pometun, Stepanenko) (Steel--Metallurgy)

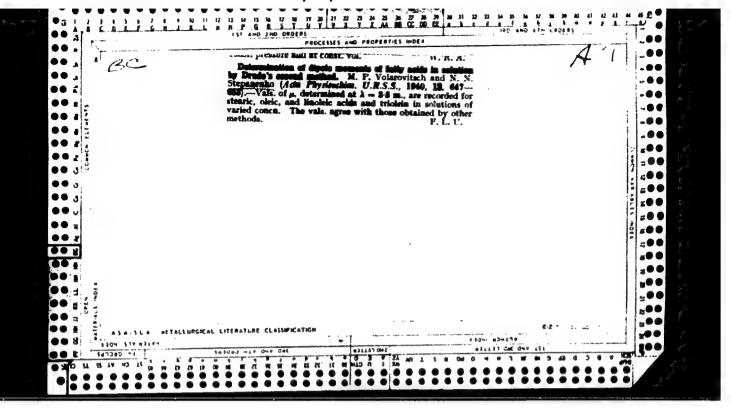
YEREMEYEV, M.N. (Docent) and STEPANENKO, N.D. (Junior Scientific Worker, All-Union Scientific Research Institute of Animal Raw Material and Fur.)

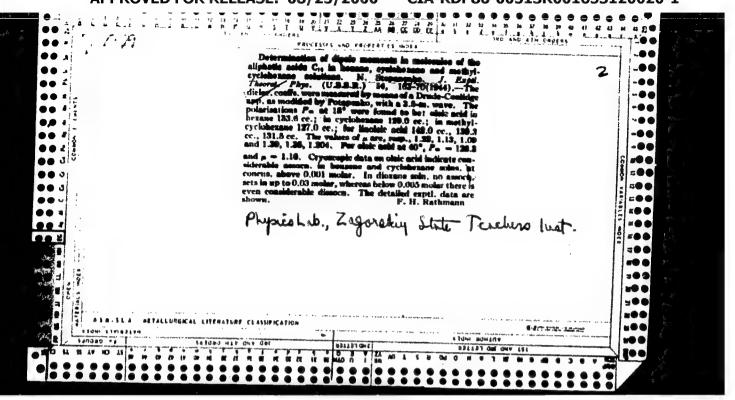
"The listerosis disease in sables..."
Veterinariya, Vol. 39, no. 3, March 1962 pp. 57

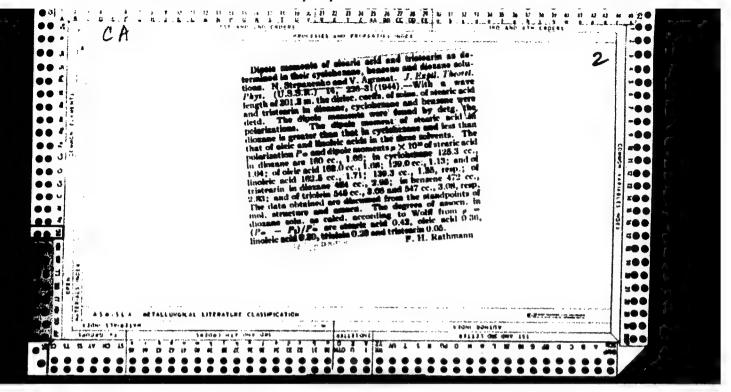


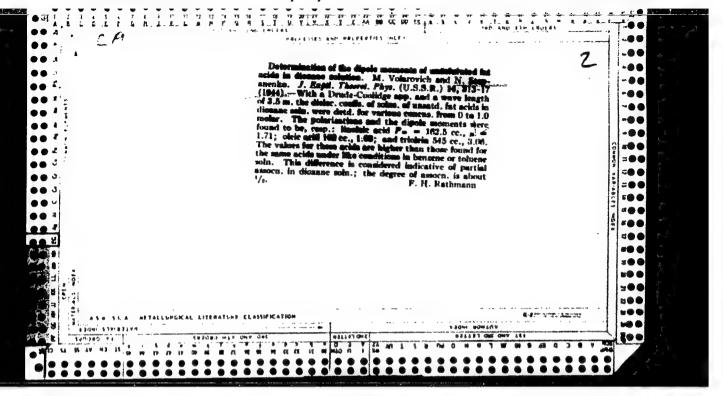


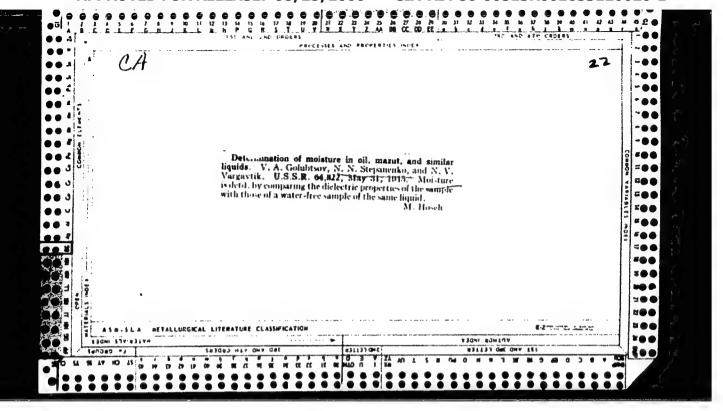


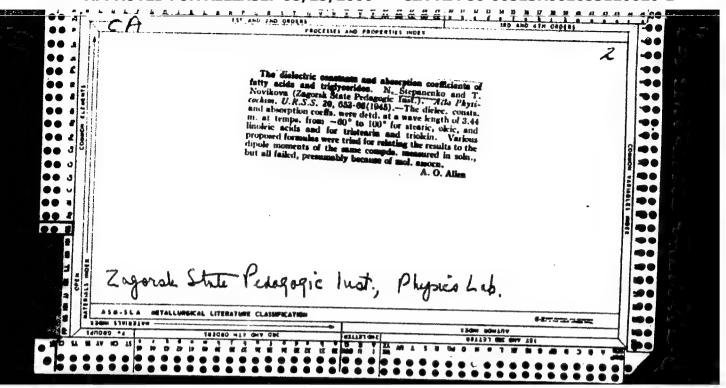


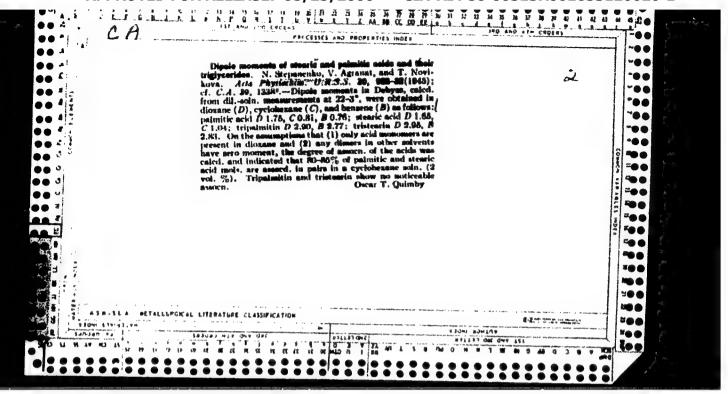












STEPANENKO, N. N.

"Dipole Moments of the Palmitic Acid and Tripalmitin Determined in Benzene, Cyclohexane, and Dioxane Solutions," Zhur. eksper. i teoret. fiz., 16, No.6, 1946

Physics Lab., Zagorsk State Pedagogic Inst.

### "APPROVED FOR RELEASE: 08/25/2000

#### CIA-RDP86-00513R001653120020-1

STEPANENKO, N. N.

PA 18T76

USSR/Chemistry - Fatty Acids Chemistry - Glycerides

Jun 1946

"The Dielectric Constants and Absorption Coefficients of Fatty Acids and Triglycerides," N. N. Stepanenko, T. P. Novikova, A. P. Kerman, 8 pp

"Zhur Fiz Khim" Vol XX, No 6

Account of experiments conducted according to the Drude-Coolige method with wave length of 3.44 meters and temperatures of 2 to 3 degrees. Results in graph and tabular form are given for stearic acid, cleic acid, lincleic acid and tristearin.

Zajorak State Teachers College, Moscoul

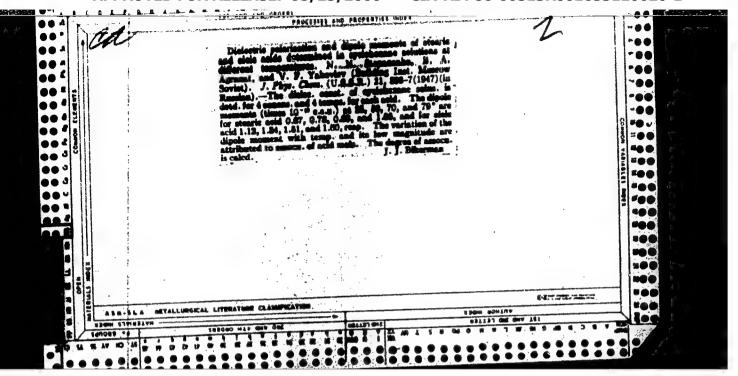
10176

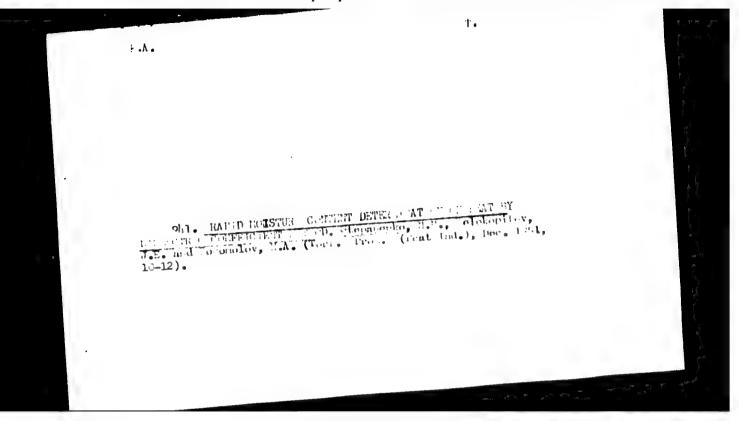
VARGAPTIK, N.B.; GOLUBTSOV, V.A.; STEPANENKO, N.N.

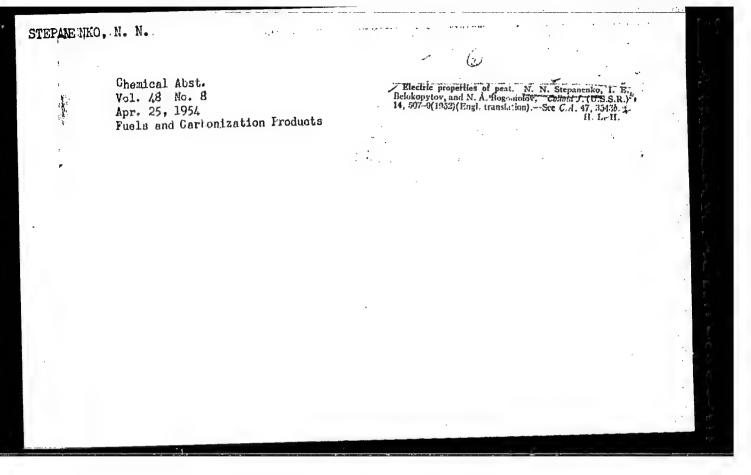
[Electrical method of determining moisture content in petroleum products] Elektricheskii metod opredeleniia vlezhnosti nefteproduktov. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1947.
58 p. (MIRA 7:2)

(Petroleum products)

STEPANENKO, N. N.	the theory that it might be possible to apply Golubt- sov's electrical method for determining the moisture content of petroleum products. As a result, the suthors describe the experiments which they conducted  USER/Chemistry - Electrolytes (Contd)  to determine the effect of the concentration of electrolytes in water which is found in oil, and the effect this has on the dielectric constant of the oil. In the experiments the dielectric constant determined the capacity of the condenser.	USSR/Chemistry - Electrolytes Feb 1947 Chemistry - Emulsions  "The Influence of the Concentration of Electrolytes 1 Water Present in Oil, on the Dielectric Constant of the Latter," N. N. Stepanenko, N. B. Vargaftik, M. S. Areffyev, Physics Laboratory, Institute of Construction, Mossovet, 2 pp  "Kolloidnyy Zhurnal" Vol II, No 2
TIME	it might be possible to apply Golubt- l method for determining the moisture cleum products. As a result, the the experiments which they conducted  Electrolytes (Contd)  Pob 1947  effect of the concentration of water which is found in oil, and the on the dislectric constant of the oil. Its the dislectric constant determined the condenser.	- Electrolytes Feb 1947 - Emulsions  of the Concentration of Electrolytes in in Oil, on the Dielectric Constant of N. Stepanenko, N. B. Vargaftik, M. S. ics Laboratory, Institute of Construction 2 pp  urnal** Vol IX, No 2







STEPANENKO, N.N.; BOGDANOV, L.I.

Dielectric polarization and dipole moment of limolenic acid in benzene and in dioxane. Zhur. Fiz.Khim. 26, 1472-6 '52. (MLRA 5:12) (CA 47 no.13:6201 '53)

STEPANENKO, N.N.

BOGDANOV, L.J.; STEPANENKO, N.N.

Dielectric constant and absorption coefficients of tripalmitin.

2hnr. Fiz., Khim. 26, 1277-9 '52.

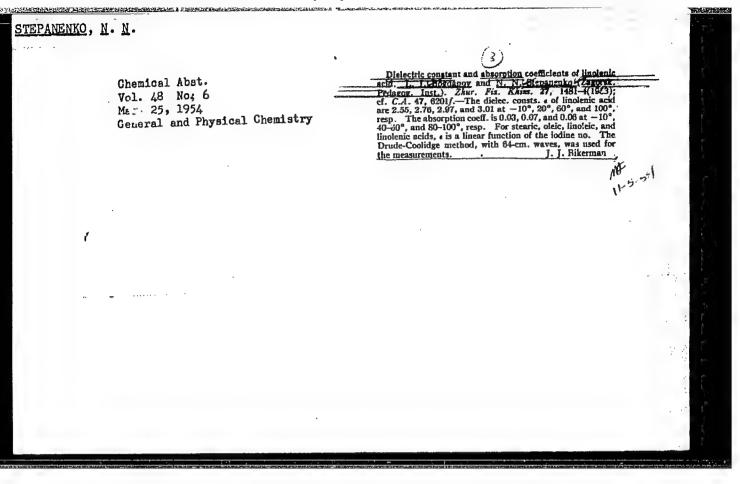
(CA 47 no.13:6201 '53)

(CA 47 no.13:6201 '53)

No JSSR/Chemistry - Dioxane  "The Dielectric Permeability and the Coefficion of Absorption of Dioxane," N. A. Bogomolov and Stepanenko, Second State Med Inst, Moscow Stepanenko, Second State Med Inst, Moscow With an arrangement based on the Drude-Coolid, method, and using waves of 1.5 m and 63.5 cm, authors measured the dielectric permeability and the discorption of dioxane and computed values of its polarization at different temps non-polar. The coeffs of absorption that diox appeared equal to zero in the range of temps tigated.  24  24  24  24  24	STELL MENKO, L. F.	TA 242T14		
	data obtained led to the conclusion that dinon-polar. The coeffs of absorption for diappeared equal to zero in the range of temptigated.	he Dielectric Permeability Absorption of Dioxane," Nappanenko, Second State Med mur Fiz Knim" Vol 26, No 11 mur Fiz Knim" Vol 26, No 11 th an arrangement based on thod, and using waves of 1 thors measured the dielectrathors of absorption of dioxelues of its polarization at		the state of the s

#### "APPROVED FOR RELEASE: 08/25/2000 C

CIA-RDP86-00513R001653120020-1



STEPANENKO, N.N., professor (Moskva); SOKOLOV, N.A., dotsent (Moskva)

Fiftieth anniversary of the death of Pierre Curie. Fel'd. i akush.
21 no.6:29-32 Je '56.

(CURIE, PIERRE, 1859-1906)

Stepanenko, N.N.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3766.

Author : M.M. Popov, Yu.V. Gagarinskiy, N.N. Stepanenko.

Inst

Title: Dissociation Pressure of Li, SO4. H20 at 25 to 450.

Orig Pub: Zh. neorgan. khimii, 1957, 2, No 7, 1457-1459.

Abstract: The dissociation pressure of  $\text{Li}_1\text{SO}_4$ .  $\text{H}_2\text{O}$  was measured at 25 to  $^{45^{\circ}}$  with differential tensimeters. The adjusted mean experimen-

45° with differential tensimeters. The adjusted mean experimental values satisfy the equation logP (mm of merc. col.) = 10.228 - 2967/T. The calculated heat of Li<sub>2</sub>SO<sub>4</sub> hydration by liquid

water is 3.18 kcal per mole.

Card : 1/1

-15-

BORDIKOVA, A.I., dots., kand.biol.nauk; STEPANENKO, N.N., prof., doktor fiz.mat.nauk

Remizov frigorimeter and its use in solving certain problems.
Nauch.dokl.vys.shkoly; stroi. no.3:274-279 '58. (MIRA 12:7)

1. Rekomendovana kafedroy fiziki Moskovskogo instituta inzhenerov gorodskogo stroitel stva Mosgorispolkoma.

(Thermometers and thermometry)

#### STEPANENKO, N.P.

Minutes of the Fifth Meeting of the Kiev Province Scientific
Society of Doctors and Otolaryngologists on September 10, 1958.

Zhur. ush., nos. i gorl. bol. 19 no.5:93-94 Se0 '59. (MIRA 14:10)

(ODESSA PROVINCE—OTOLARYNGOLOGICAL SOCIETIES)

STEPANENKO, N.P.

Minutes of the Sixth Meeting of the Kiev Province Scientific Society of Doctors and Otolaryngologists on October 31, 1958.

Zhur. ush., nos. i gorl. bol. 19 no.5:94-96 S-0 '59. (MIRA 14:10)

(ODESSA PROVINCE-OTOLARYNGOLOGICAL SOCIETIES)

STEPANENKO, O.R., st. nauchn. sotr., otv. red.; LITVAK, L.B., zasl. deyatel nauki, prof., zam. otv. red.; MAN'KOVSKIY, B.N., prof., red.; PANCHENKO, D.I., zasl. deyatel nauki, prof., red.; TATARENKO, N.P., zasl. deyatel nauki, prof., red.; SOKOLYANSKIY, G.G., prof., red.; GOLUBOVA, R.A., st. nauchn. sotr., red.

[Disorders of cerebral blood circulation (in the neurological clinic)] Rasstroistva mozgovogo krovoobrashcheniia (v nevrologicheskoi klinike). Kiev, Zdorov'ia, 1965. 258 p. (MIRA 18:9)

1. Ukrainskiy nauchno-issledovatel'skiy psikhonevrologiche-skiy institut. 2. Ukrainskiy nauchno-issledovatel'skiy psikhonevrologicheskiy institut (for Litvak). 3. Otdel nevrologii Ukrainskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta (for Golubova). 4. Otdel vegetativnoy patologii Ukrainskogo nauchno-issledovatel'skogo psikho-nevrologicheskogo instituta (for Stepanenko). 5. Kafedra nervnykh bolezney Donetskogo meditsinskogo instituta (for Panchenko).